

ABSTRACT OF THE DISCLOSURE

Method and apparatus for determining the distance between a point of an object to a specified reference point, such as a sensor, by measuring contrast values of the point that is represented in the working plane of the sensor, in particular for a scanning profile determination of a material surface with a coordinate measuring instrument. An optical system, which includes the sensor and is arranged in a probe that is displaceable relative to the object surface, is adjusted in relation to the object, and from the position of the optical system in relation to the object, the distance and/or its profile is determined. In the imaging beam path of the optical system, the contrast values of the depicted point are measured at the ends of at least two optical paths of different lengths.